

REMARKS

Claims 1-3, 5, 7, 9, 11, 13-20 and 21-37 are pending in the application. Claims 1-3, 5, 7, 9, 11, 13-20 are canceled. Claims 21-37 are herein added to the application. Applicants submit that no new matter is added.

Specification

The disclosure has been objected to because page 4, lines 24-32 of the specification discusses Figure 2. The specification discusses strained InGaP compositions, while Figure 2 sets forth that the compositions are InGaAs.

Applicants note that the drawing figure is incorrect, and that Figure 2 should instead indicate, "InGaP". Applicants submit herewith a corrected Figure 2.

The Examiner notes that in the amendment filed February 24, 2003, Applicant amended the paragraph starting at page 11, line 5 but inadvertently omitted the originally-presented symbol "O" in the next to last line of the paragraph.

Applicants herein amend the paragraph that includes page 11, line 5 to re-include the symbol "O".

Claim Rejections - 35 U.S.C. §102 and §103

Claims 1-3, 5, 7, 9, 11 and 13-15 and 18-20 are rejected under 35 U.S.C. §102(e) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over U.S. Patent No. 6,222,200 to Svilans.

Applicants herein cancel claims 1-20 and submit new claims 21-37. Applicants submit that the claims as presently submitted are patentably distinct from the cited reference because not all of the claimed limitations are taught or suggested by the cited reference.

Applicants explain with reference to page 11, line 5-page 12, line 13, the present invention, which provides high-quality surface morphology to the strained optical absorption layers.

Applicants note more specifically that the present invention achieves flat surface morphology in the compressed optical absorption layers and also in the tensioned strain-compensation layers, by controlling the thickness of the optical absorption layers to be smaller than the thickness L_w given by Equation (2), as shown in Figure 4. Thereby, it is clear from Figure 4 that the coefficient A of Equation (2) is a negative constant having the value of $-1\mu\text{m}/\%$, and that the parameter L is a constant and takes the value of $1.3\mu\text{m}$.

Applicants note that Svilans is silent about the foregoing feature of the present invention. As indicated in attached Fig. 4 with hand notations, the experimental point of Svilans ($L_w = 1.2\mu\text{m}$, (80 nm X 5 pairs), $\varepsilon_w = 0.25\%$) is clearly outside the region defined by Equation (2). Thus, Applicants submit that there should appear irregular surface morphology in the strained optical absorption layer in the device of Svilans.

Furthermore, Applicants submit that there is no motivation for a person skilled in the art to modify the teaching of Svilans to achieve flat morphology for the optical absorption layers by using the thickness range of the present invention, in view of absence of observation of appearance or disappearance of irregular surface morphology in the strained optical absorption layers.

Applicants note that by limiting the total thickness of the optical absorption layers to be smaller than the critical value given by Equation (2), the present invention can successfully avoid this problem of surface irregularity in the optical absorption layers and the strain-compensating layers.

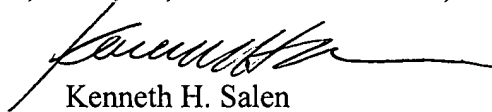
In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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Attachments: Figure 4 with Hand Notations Graphically Showing Data Point of Sivilans
Corrected Figure 2

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